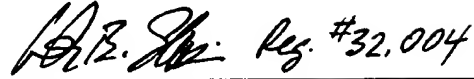



REMARKS

The above is believed to be self-explanatory.

Respectfully submitted,

 Reg. #32,004

Anthony J. Zelano (Reg. No. 27,969)
Registration No. 27,969
Attorney for Applicants


Jennifer J. Branigan (Reg. No. 40,921)
(Patent Agent)

MILLEN, WHITE, ZELANO & BRANIGAN, P. C.
2200 Clarendon Boulevard, Suite 1400
Arlington Courthouse Plaza I
Arlington, Virginia 22201
Direct Dial: (703) 812-5311
Internet address: zelano@mwzb.com

Filed: September 6, 2001

JJB/njr
K:\Sch\1722\preliminary amendment 2.wpd

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend the claims as follows:

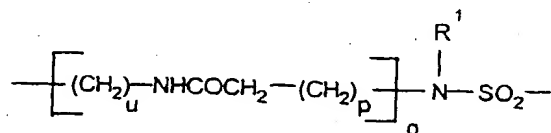
1. A galenical formulation , ~~characterized in that it contains~~ comprising paramagnetic and diamagnetic perfluoroalkyl-containing substances.
2. A formulation ~~Formulation~~ according to claim 1, wherein the ratio of paramagnetic to the diamagnetic perfluoroalkyl-containing substances lies between 5:95 and 95:5.
3. A formulation ~~Formulation~~ according to claim 1, wherein the paramagnetic and diamagnetic perfluoroalkyl-containing compounds are present dissolved in an aqueous solvent.
4. A formulation ~~Formulation~~ according to claim 1, wherein the paramagnetic perfluoroalkyl-containing compounds are those of general formula I:



I

in which R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes.

5. A formulation ~~Formulation~~ according to claim 4, wherein molecule portion A stands for a group L-M, whereby L stands for a linker and M stands for a metal complex that consists of an open-chain or cyclic chelating agent, which as a central atom contains an atom of atomic numbers 21-29, 39, 42, 44 or 57-83.
6. A formulation ~~Formulation~~ according to claim 5, wherein linker L is a direct bond, a methylene group, an -NHCO group, a group

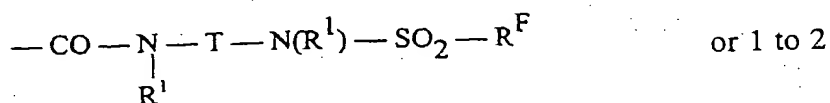


whereby p means the numbers 0 to 10, q and u,

independently of one another, mean the numbers 0 or 1, and

R¹ means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group



optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F,

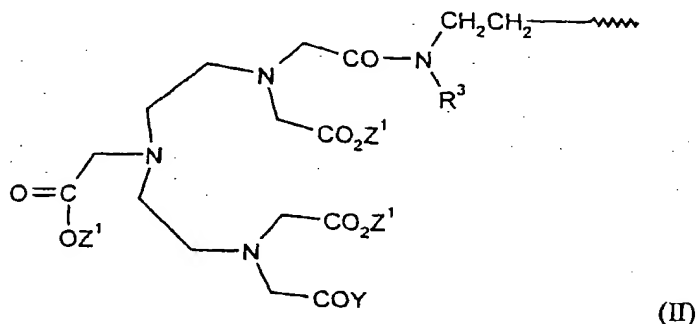
whereby

R¹, and p and q have the above-indicated meanings,

and R^F ~~is defined as in claim 4~~ represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms

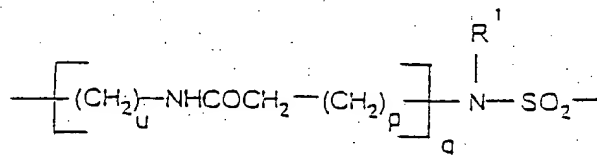
T means a C₂-C₁₀ chain, which optionally is interrupted by 1 to 2 oxygen atoms or 1 to 2 -NHCO groups.

7. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a complex of general formula II



in which R^3 , Z^1 and Y are independent of one another, and

R^3 has the meaning of R^1 or $-(CH_2)_m-L-R^f$, whereby m is 0, 1 or 2, and L and R^f have the meaning that is mentioned in claim 6, is a direct bond, a methylene group, an -NHCO group, a group



whereby p means the numbers 0 to 10, q and u ,

independently of one another, mean the numbers 0 or 1, and

R^1 means a hydrogen atom, a methyl group, a $-CH_2-OH$ group, a $-CH_2-CO_2H$ group or a C_2-C_{15} chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 $>CO$ groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C_1-C_4 alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C_2-C_{30} carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 $-NR^1$ groups, 1 to 2 sulfur atoms, a piperazine, a $-CONR^1$ group, an $-NR^1CO$ group, an $-SO_2$ group, an $-NR^1-CO_2$ group, 1 to 2 CO groups, a group

optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F.

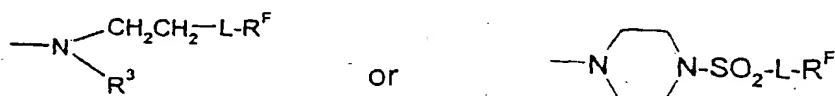
whereby

R¹, and p and q have the above-indicated meanings,

and R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes,

Z¹, independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

Y means -OZ¹ or

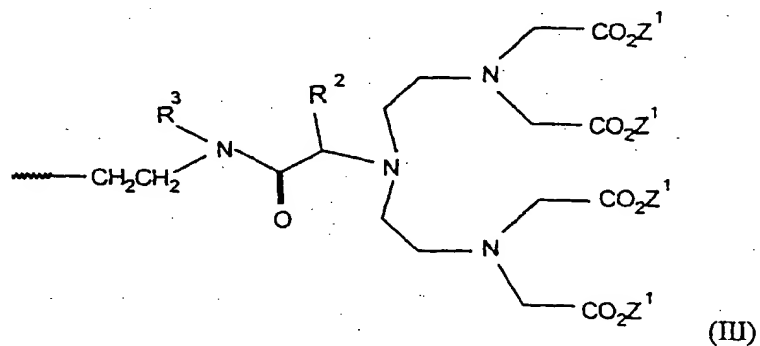


whereby Z¹ and R³ have the above-mentioned meanings, ~~and~~

~~linker L is defined as in claim 6~~

~~and R^F is defined as in claim 4.~~

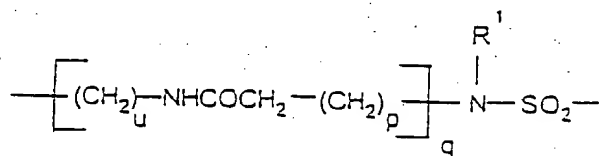
8.A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a complex of general formula III



in which R^3 and Z^+ have the meanings that are mentioned in claim 7

R^3 and Z^1 are independent of one another, and

R^3 has the meaning of R^1 or $-(CH_2)_m-L-R^F$, whereby m is 0, 1 or 2, and L is a direct bond, a methylene group, an -NHCO group, a group

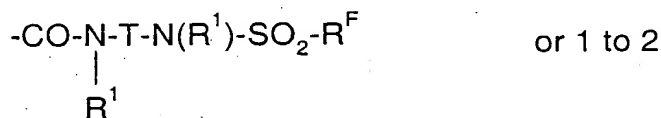


whereby p means the numbers 0 to 10, q and u,

independently of one another, mean the numbers 0 or 1, and

R^1 means a hydrogen atom, a methyl group, a $-CH_2-OH$ group, a $-CH_2-CO_2H$ group or a C_2-C_{15} chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 $>CO$ groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C_1-C_4 alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C_2-C_{30} carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 $-NR^1$ groups, 1 to 2 sulfur atoms, a piperazine, a $-CONR^1$ group, an $-NR^1CO$ group, an $-SO_2$ group, an $-NR^1-CO_2$ group, 1 to 2 CO groups, a group



optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 $-OR^1$ groups, 1 to 2 oxo groups, 1 to 2 $-NH-COR^1$ groups, 1 to 2 $-CONHR^1$ groups, 1 to 2 $(-CH_2)_p-CO_2H$ groups, 1 to 2 groups $-(CH_2)_p-(O)_q-CH_2CH_2-R^F$,

whereby

R^1 , and p and q have the above-indicated meanings,

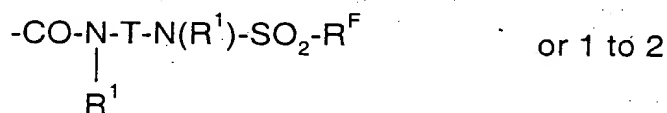
and R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes,

Z¹, independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

and R²

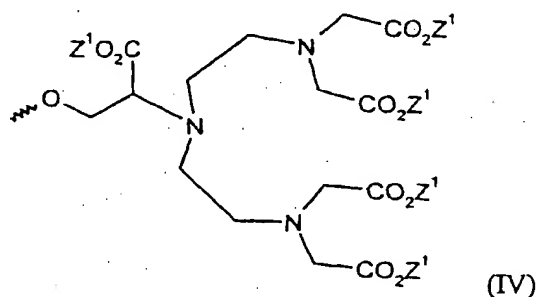
has the meaning of R¹ in claim 6 means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group



optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F.

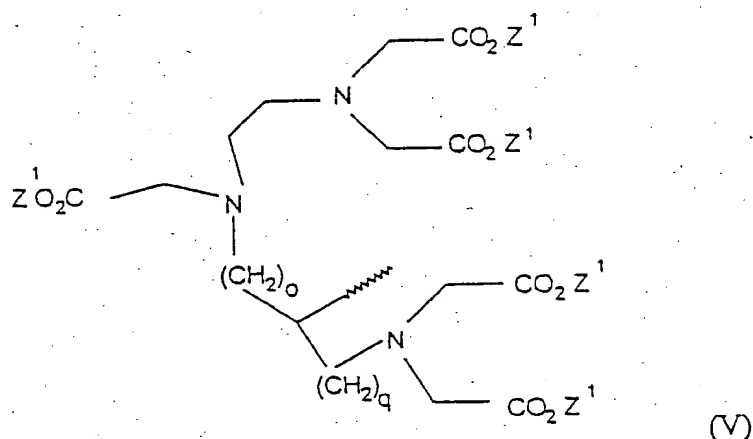
9. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a metal complex of general formula IV



in which Z¹ ~~has the meaning that is mentioned in claim 7.~~

independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83.

10. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a metal complex of general formula V

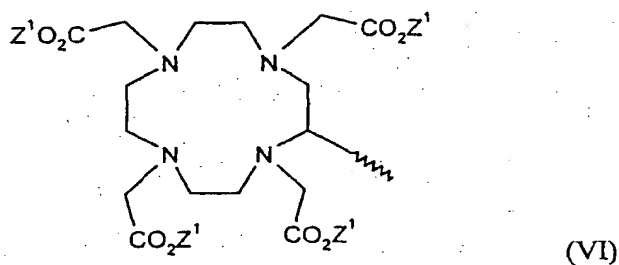


in which Z^1 ~~has the meaning that is mentioned in claim 7,~~

independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

and o and q stand for numbers 0 or 1, and yields the sum $o + q = 1$.

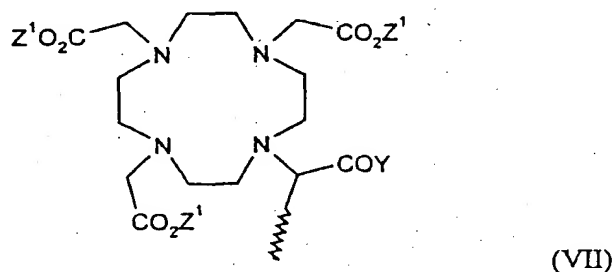
11. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a metal complex of general formula VI



in which Z^1 ~~has the meaning that is mentioned in claim 7~~

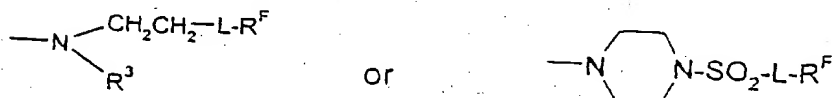
independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83.

12. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a metal complex of general formula VII

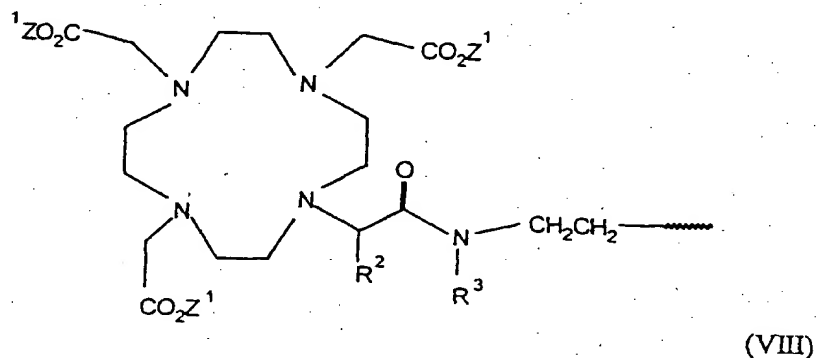


in which Z^1 and Y have the meanings that are mentioned in claim 7: independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

and Y means $-OZ^1$ or

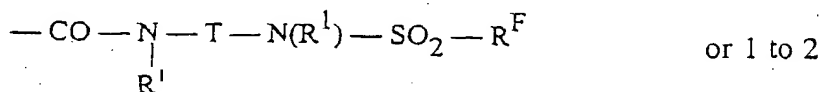


13. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M is a complex of general formula VIII



in which R^3 and Z^+ have the meanings that are mentioned in claim 7;

R^3 has the meaning of R^1 or $-(CH_2)_m-L-R^F$, whereby m is 0, 1 or 2, and L is a direct bond, a methylene group, an $-NHCO$ group, a group

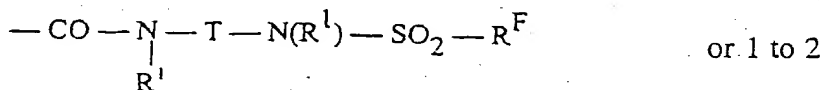


whereby p means the numbers 0 to 10, q and u ,

independently of one another, mean the numbers 0 or 1, and

R^1 means a hydrogen atom, a methyl group, a $-CH_2-OH$ group, a $-CH_2-CO_2H$ group or a C_2-C_{15} chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 $>CO$ groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C_1-C_4 alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C_2-C_{30} carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 $-NR^1$ groups, 1 to 2 sulfur atoms, a piperazine, a $-CONR^1$ group, an $-NR^1CO$ group, an $-SO_2$ group, an $-NR^1-CO_2$ group, 1 to 2 CO groups, a group



optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 $-OR^1$ groups, 1 to 2 oxo groups, 1 to 2 $-NH-COR^1$ groups, 1 to 2 $-CONHR^1$ groups, 1 to 2 $-(CH_2)_p-CO_2H$ groups, 1 to 2 groups $-(CH_2)_p-(O)_q-CH_2CH_2-R^F$,

whereby

R^1 , and p and q have the above-indicated meanings,

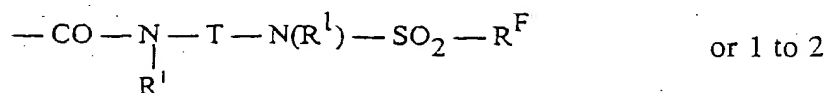
and R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes, and

Z^1 , independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

and R^2

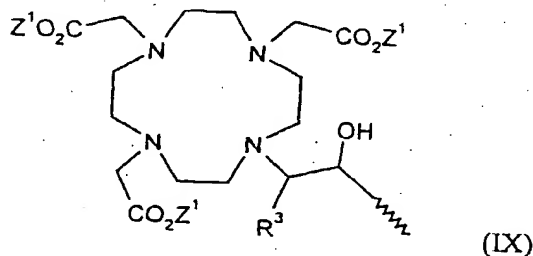
has the meaning of R¹ in claim 6

-means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups, or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group



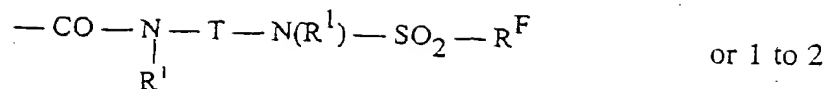
optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F.

14. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M is a complex of general formula IX



in which R³ and Z⁺ have the meanings that are mentioned in claim 7.

R³ has the meaning of R¹ or -(CH₂)_m-L-R^F, whereby m is 0, 1 or 2, and L is a direct bond, a methylene group, an -NHCO group, a group

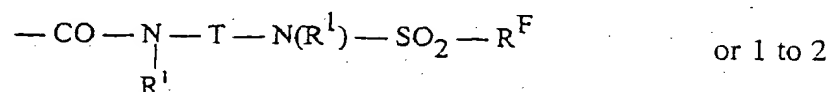


whereby p means the numbers 0 to 10, q and u,

independently of one another, mean the numbers 0 or 1, and

R¹ means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group



optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F,

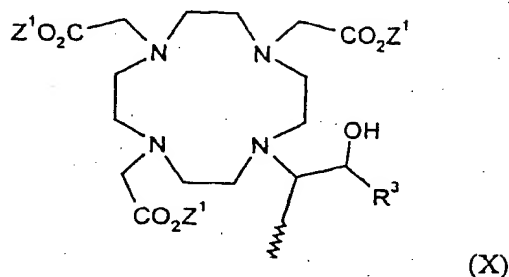
whereby

R¹, and p and q have the above-indicated meanings,

and R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes, and

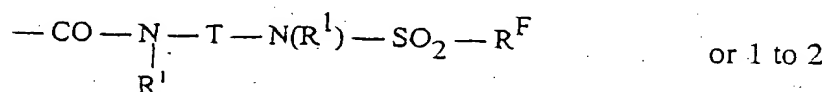
Z¹, independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

15. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M is a complex of general formula X



in which ~~R³ and Z⁺ have the meanings that are mentioned in claim 7.~~

R³ has the meaning of R¹ or -(CH₂)_m-L-R^F, whereby m is 0, 1 or 2, and L is a direct bond, a methylene group, an -NHCO group, a group

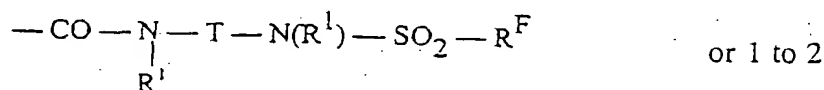


whereby p means the numbers 0 to 10, q and u,

independently of one another, mean the numbers 0 or 1, and

R¹ means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group



optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F.

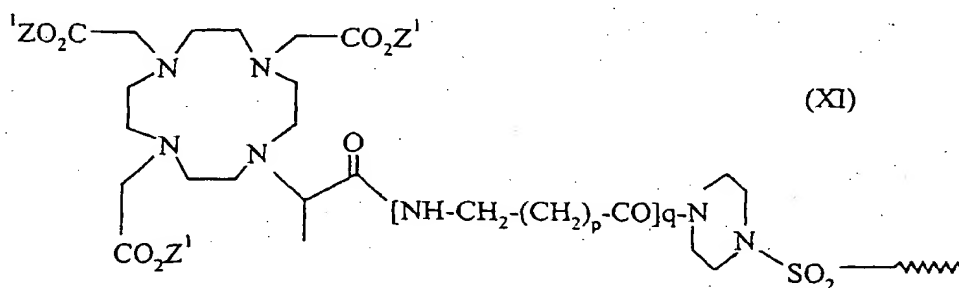
whereby

R¹, and p and q have the above-indicated meanings,

and R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes, and

Z¹, independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83.

16. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M is a complex of general formula XI



~~in which -Z⁺, p and q have the meaning that is mentioned in claim 7,~~

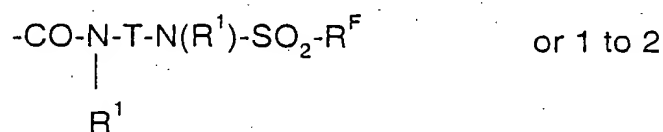
Z¹, independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83,

and whereby p means the numbers 0 to 10, q and u,

independently of one another, mean the numbers 0 or 1, and R² has the meaning of R⁺ in claim 6.

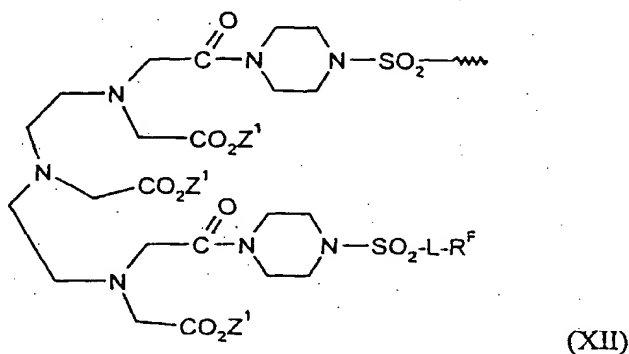
R² means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group

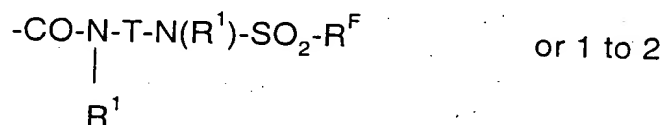


optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F.

17. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M is a complex of general formula XII



in which L ~~is defined as in claim 6~~ is a direct bond, a methylene group, an -NHCO group, a group

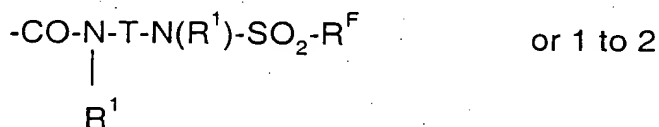


whereby p means the numbers 0 to 10, q and u,

independently of one another, mean the numbers 0 or 1, and

R¹ means a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ chain, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 >CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups,

or a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR¹ groups, 1 to 2 sulfur atoms, a piperazine, a -CONR¹ group, an -NR¹CO group, an -SO₂ group, an -NR¹-CO₂ group, 1 to 2 CO groups, a group



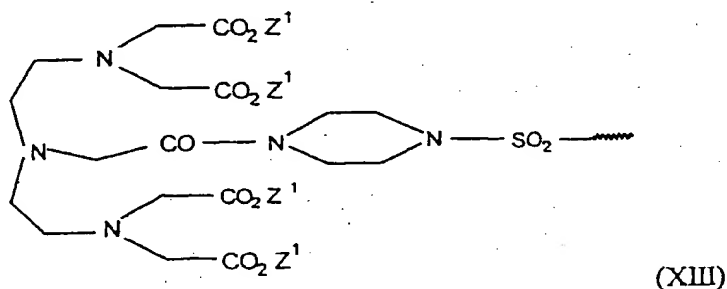
optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR¹ groups, 1 to 2 oxo groups, 1 to 2 -NH-COR¹ groups, 1 to 2 -CONHR¹ groups, 1 to 2 (-CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F,

whereby

R¹, and p and q have the above-indicated meanings,

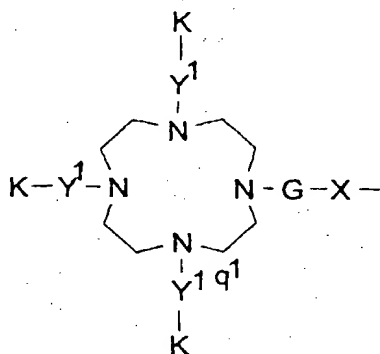
R^F is defined as in claim 4 represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and A is a molecule portion that contains 1-6 metal complexes, and Z¹ is defined as in claim 7 Z¹, independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83.

18. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M is a complex of general formula XIII



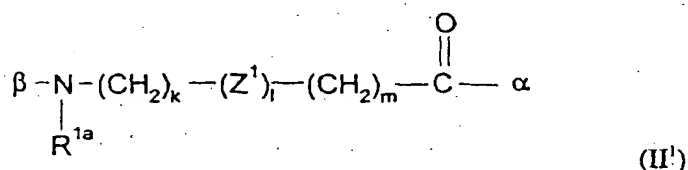
in which Z^+ ~~has the meaning that is mentioned in claim 7~~ Z^1 , independently of one another, mean a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 39, 42, 44 or 57-83.

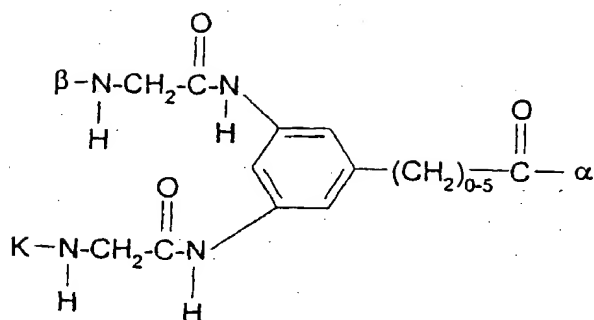
19. A formulation ~~Formulation~~ according to claim 4, wherein molecule portion A has the following structure:



whereby

- q^1 is a number 0, 1, 2 or 3,
- K stands for a complexing agent or metal complex or salts thereof of organic and/or inorganic bases or amino acids or amino acid amides,
- X is a direct bond for the perfluoroalkyl group, a phenylene group or a C_1 - C_{10} alkyl chain, which optionally contains 1-15 oxygen atoms, 1-5 sulfur atoms, 1-10 carbonyl groups, 1-10 (NR) groups, 1-2 $NRSO_2$ groups, 1-10 CONR groups, 1 piperidine group, 1-3 SO_2 groups, 1-2 phenylene groups or optionally is substituted by 1-3 radicals R^F , in which R stands for a hydrogen atom, a phenyl, benzyl or a C_1 - C_{15} alkyl group, which optionally contains 1-2 NHCO groups, 1-2 CO groups, 1-5 oxygen atoms and optionally is substituted by 1-5 hydroxy, 1-5 methoxy, 1-3 carboxy, 1-3 R^F radicals,
- Y is a direct bond or a chain of general formula II' or III':

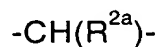




(III')

in which

- R^{1a} is a hydrogen atom, a phenyl group, a benzyl group or a C_1 - C_7 alkyl group, which optionally is substituted with a carboxy group, a methoxy group or a hydroxy group,
- Z^1 is a direct bond, a polyglycol ether group with up to 5 glycol units or a molecule portion of general formula IV¹



(IV¹)

in which R^{2a} is a C_1 - C_7 carboxylic acid, a phenyl group,

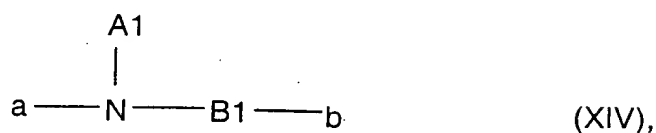
a benzyl group or a $-(\text{CH}_2)_{1-5}\text{-NH-K}$ group,

- α represents the binding to the nitrogen atom of the skeleton chain, β represents the binding to the complexing agent or metal complex K,
- and in which variables k and m stand for natural numbers between 0 and 10, and l stands for 0 or 1,

and whereby

- G is a CO or SO_2 group.

20. A formulation ~~Formulation~~ according to claim 5, in which linker L stands for a molecule portion according to general formula XIV



in which

N represents a nitrogen atom,

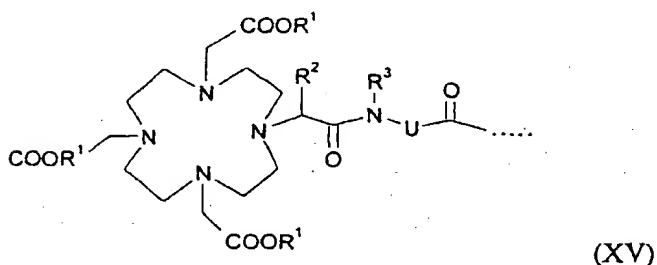
A1 means a hydrogen atom, a straight-chain or branched C₁-C₃₀ alkyl group, which optionally is interrupted by 1-15 oxygen atoms and/or optionally is substituted with 1-10 hydroxy groups, 1-2 COOH groups, a phenyl group, a benzyl group and/or 1-5 -OR⁴ groups, with R⁴ in the meaning of a hydrogen atom or a C₁-C₇ alkyl radical, or B1-R^F,

B1 means a straight-chain or branched C₁-C₃₀ alkylene group that optionally is interrupted by 1-10 oxygen atoms, 1-5 -NH-CO groups, 1-5 -CO-NH groups, by a phenylene group (that is optionally substituted by a COOH group), 1-3 sulfur atoms, 1-2 -N(B2)-SO₂ groups, and/or 1-2 -SO₂-N(B2) groups with B2 in the meaning of A1, an NHCO group, a CONH group, an N(B2)-SO₂ group, or an -SO₂-N(B2) group and/or optionally is substituted with radical R^F a straight or branched perfluoroalkyl radical with 4 to 30 carbon atoms,

and in which a represents the binding to metal complex M, and b

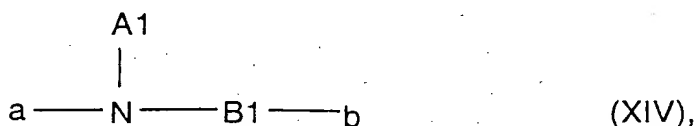
represents the binding to ~~perfluoroalkyl group R^F~~ a straight or branched perfluoroalkyl radical with 4 to 30 carbon atoms.

21. A formulation ~~Formulation~~ according to claim 5, wherein metal complex M stands for a metal complex of general formula XV



whereby

R¹	stands for a hydrogen atom or a metal ion equivalent of atomic numbers 21-29, 31, 32, 37-39, 42-44, 49 or 57-83,
R² and R³	stand for a hydrogen atom, a C ₁ -C ₇ alkyl group, a benzyl group, a phenyl group, -CH ₂ OH or -CH ₂ -OCH ₃ ,
U	stands for radical L according to claim 19 , <u>in which radical L stands for a molecule portion according to general formula XIV</u>



in which

N represents a nitrogen atom,

A1 means a hydrogen atom, a straight-chain or branched C₁-C₃₀ alkyl group, which optionally is interrupted by 1-15 oxygen atoms and/or optionally is substituted with 1-10 hydroxy groups, 1-2 COOH groups, a phenyl group, a benzyl group and/or 1-5 -OR⁴ groups, with R⁴ in the meaning of a hydrogen atom or a C₁-C₇ alkyl radical, or B1-R^F,

B1 means a straight-chain or branched C₁-C₃₀ alkylene group that optionally is interrupted by 1-10 oxygen atoms, 1-5 -NH-CO groups, 1-5 -CO-NH groups, by a phenylene group (that is optionally

substituted by a COOH group), 1-3 sulfur atoms, 1-2 -N(B2)-SO₂ groups, and/or 1-2 -SO₂-N(B2) groups with B2 in the meaning of A1, an NHCO group, a CONH group, an N(B2)-SO₂ group, or an -SO₂-N(B2) group and/or optionally is substituted with radical R^F a straight or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and in which a represents the binding to metal complex M, and b represents the binding to a straight or branched perfluoroalkyl radical with 4 to 30 carbon atoms.

whereby L and U, independently of one another, can be the same or different, however.

22. A formulation ~~Formulation~~ according to ~~one of the preceding claims~~ claim 1, wherein the central atom of the metal complex is a gadolinium atom (atomic number 64).

23. A formulation ~~Formulation~~ according to claim 1, wherein the diamagnetic, perfluoroalkyl-containing substances are those of general formula XVI:



in which R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, L stands for a linker, and B² stands for a hydrophilic group.

24. A formulation ~~Formulation~~ according to claim 23, wherein linker L¹ is a direct bond, an -SO₂ group or a straight-chain or branched carbon chain with up to 20 carbon atoms, which can be substituted with one or more -OH, -COO⁻, -SO₃ groups and/or optionally contains one or more -O-, -S-, -CO-, -CONH-, -NHCO-, -CONR-, -NRCO-, -SO₂-, -PO₄⁻, -NH-, -NR groups, an aryl ring or a piperazine, whereby R stands for a C₁ to C₂₀ alkyl radical, which in turn can contain one or more O atoms and/or can be substituted with -COO⁻ or SO₃ groups.

25. A formulation ~~Formulation~~ according to claim 23, wherein the hydrophilic group is a monosaccharide or a disaccharide, one or more adjacent -COO⁻ or -SO₃ groups, a dicarboxylic acid, an isophthalic acid, a picolinic acid, a benzenesulfonic acid, a

tetrahydropyrandicarboxylic acid, a 2,6-pyridinecarboxylic acid, a quaternary ammonium ion, an aminopolycarboxylic acid, an aminodipolyethyleneglycosulfonic acid, an aminopolyethylene glycol group, an $\text{SO}_2\text{-(CH}_2\text{)}_2\text{-OH}$ group, a polyhydroxyalkyl chain with at least two hydroxyl groups or one or more polyethylene glycol chains with at least two glycol units, whereby the polyethylene glycol chains are terminated by an -OH or -OCH_3 group.

26. A formulation ~~Formulation~~ according to claim 1, wherein the diamagnetic perfluoroalkyl-containing substances are conjugates that consist of α -, β -, or γ -cyclodextrin and compounds of general formula XVIII:



in which A^1 stands for an adamantane, biphenyl or anthracene molecule, L^3 stands for a linker and R^{F} stands for a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms; and whereby linker L^3 is a straight-chain hydrocarbon chain with 1 to 20 carbon atoms, which can be interrupted by one or more oxygen atoms, one or more CO- , $\text{SO}_2\text{-}$, CONH- , NHCO- , CONR- , NRCO- , NH- , NR groups or a piperazine, whereby R is a $\text{C}_1\text{-C}_5$ alkyl radical.

27. A formulation ~~Formulation~~ according to claim 1, wherein the perfluoroalkyl chains of the perfluoroalkyl-containing metal complex and the other perfluoroalkyl-containing compounds contain 6 to 12 carbon atoms.

28. A formulation ~~Formulation~~ according to claim 1 ~~28~~, wherein the perfluoroalkyl chains contain 8 carbon atoms in each case.

29. A formulation ~~Formulation~~ according to claim 1, wherein it has a metal concentration of 50 to 250 mmol/l.

30. A substance ~~Substances~~ of general formula XVII



in which R^F represents a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and X^1 is a radical that is selected from the group of the following radicals (in this case, n is a number between 1 and 10):

31. A conjugate ~~Conjugates~~ that consist of α -, β -, or γ -cyclodextrin and compounds of general formula XVIII



in which A^1 stands for an adamantane, biphenyl or anthracene molecule, L^3 stands for a linker and R^F stands for a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, and whereby linker L^3 is a straight-chain hydrocarbon chain with 1 to 20 carbon atoms, which can be interrupted by one or more oxygen atoms, one or more CO -, SO_2 -, $CONH$ -, $NHCO$ -, $CONR$ -, $NRCO$ -, NH -, NR groups or a piperazine, whereby R is a C_1 - C_5 alkyl radical.

32. A process ~~Process~~ for the production of galenical formulations according to claim 1, wherein the paramagnetic and diamagnetic perfluoroalkyl-containing compounds are dissolved in a solvent while being stirred vigorously.

33. A process ~~Process~~ for the production of galenical formulations according to claim 1, wherein the paramagnetic and diamagnetic perfluoroalkyl-containing compounds are dissolved in a solvent while being treated simultaneously with ultrasound.

34. A process ~~Process~~ for the production of galenical formulations according to claim 1, wherein the paramagnetic and diamagnetic perfluoroalkyl-containing compounds are dissolved in a solvent while being treated simultaneously with microwaves.

35. A process ~~Process~~ for the production of galenical formulations according to claim 1, wherein the paramagnetic and diamagnetic perfluoroalkyl-containing compounds are dissolved in two different solvents, both solutions are added together, and one of the two solvents is distilled off.

36. A solid ~~Solid~~ formulation according to claim 1, wherein it is produced by freeze-drying a solution, which contains paramagnetic and diamagnetic perfluoroalkyl-containing substances.

37. ~~Use of galenical formulations according to claim 1 for the production of contrast~~ Contrast media for nuclear spin tomography comprising galenical formulations according to claim 1.

38. ~~Use of galenical formulations according to claim 1 for the production of contrast~~ Contrast media for visualizing lymph nodes or a blood-pool comprising galenical formulations according to claim 1.